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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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28722	7590	10/20/2006	EXAMINER	
BRACEWELL & PATTERSON, L.L.P.			SILVER, DAVID	
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			2128	

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/997,460	Applicant(s) GABELE ET AL.	
	Examiner David Silver	Art Unit 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/26/06 6/9/06</u> | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 1-15 were originally presented for examination.
2. Claims 1-15 were rejected.
3. Claims 1-15 are currently pending in Instant Application.
4. The Instant Application is not currently in condition for allowance.

Information Disclosure Statement

5. The information disclosure statement(s) (IDS) submitted on 6/9/06 6/26/06 is/are in compliance with the provisions of 37 CFR 1.97 if signed and entries initialed by the Examiner. Accordingly, the information disclosure statement(s) is/are being considered by the examiner if signed and entries initialed by the Examiner.

Response to Arguments

6. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection as necessitated by amendment.
7. Applicants' amendments to claims 1-15 introduce new 35 USC §112 deficiencies enumerated in section titled "Claim Rejections - 35 USC § 112".

Response: Objections

8. The Examiner thanks the Applicants for amending the specification. Objection to the specification has been withdrawn.

Response: 35 USC § 101

9. The Examiner thanks the Applicants for amending claims 11-15 in order to overcome the 35 USC § 101 rejection.
 - 9.1 However, in this instance, the claims are considered non-statutory because the limitation "generate/generating a counter different report" is not output as a tangible result to, for example, a screen, tangible medium, printer, or the like.
 - 9.2 As per Applicants' amendments to claims 11-15, the tangible medium is recited only in the preamble. In this instance, the preamble is not given patentable weight.

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9.3 The 35 USC § 101 rejections of claims 6-10 have been withdrawn in response to Applicants' amendments. Specifically, the means-for requires hardware and as such is considered statutory.

Response: 35 USC § 112

10. The Examiner thanks the applicants for clarifying what is meant by "counter event" on page 13 of Remarks dated 9/14/06 ("Remarks"). The arguments are persuasive and therefore the 35 USC § 112 rejection of claims 1-15 has been withdrawn.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. Claims 1-5, and 11-15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The method claims do not produce a useful, tangible, and concrete **result**. The steps of the method claims do not produce a useful, tangible, and concrete result. They merely recite a software algorithm, *per se*, which, for example, does not display, store, or otherwise provide a useful tangible output. Note exemplary claims 1 and 11 that only recite software steps and do not produce a useful tangible and concrete result.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being **indefinite** for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 1, the claim preamble recites "In a hardware description language (HDL) batch simulation farm having multiple simulation clients couples to an instrumentation server, a method for providing ...".

It is unclear whether the Applicants are attempting to claim a process or an apparatus. If the Applicants are attempting to claim an apparatus, MPEP 2114 recites "[w]hile features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the

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prior art in terms of structure rather than function." If the Applicants are attempting to patent an apparatus, the functional limitations are not given patentable weight. If the Applicants are attempting to claim a method claim, then there the claim is missing essential steps establishing a relationship between the preamble and the remainder of the claim. Because of these ambiguities claims 1-5 are considered indefinite.

As per claim 6, there are ambiguities in the claim recitation. The Applicants' claim language is either claiming:

(1) a single means within said instrumentation server for implementing all of functions following the "means within said instrumentation server for:". In this case the claim is rejected as indefinite for reciting a single-means for.

(2) a single means for implementing "receiving first set of counter event data ...". In this case, in accordance with MPEP 2114, patentable weight is not given to the remaining limitations. Additionally, the claim is rejected as indefinite for reciting a single-means for.

(3) a means-for for every limitation following the "means within said instrumentation server for:". This however does not seem to be what the Applicants intended to claim because of the indentation schema.

The claim is interpreted as (1) above.

13. Claims not specifically mentioned are rejected by virtue of their dependency.

14. The Applicants are required to fix all other similar occurrences of the above-cited deficiencies.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or

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(g) prior art under 35 U.S.C. 103(a).

15. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaidyanathan (**US 5,809,238**), and further in view of Raimi (**US 5,604,895**).

As per claim 1, Vaidyanathan discloses a method comprising: utilizing said instrumentation server to:

receive a first set of count event data for a first simulation test of an HDL model; generate a first counter report from the first set of count event data, wherein the first counter report specifies a number of occurrences of one or more count events for the first simulation test and further specifies a number of simulation cycles over which the first simulation test was processed (**col: 3 line: 44-52; col: 4 line: 4-7; col: 10 line: 21-23; col: 16 line: 28-31 (start / end times for a simulation); Fig 10 item 1012 and figure's description; Fig 11 (emphasis on 1150 1155 1157 1160) and texts which further expand on its features**);

receive a second set of count event data for a second simulation test of the HDL; generate a second counter report from the second set of count event data, wherein the second counter report specifies a number of occurrences of one or more count events for the second simulation test and further specifies a number of simulation cycles over which the second simulation test was processed (**col: 17 line: 50 to col: 18 line: 11; col: 16 line: 28-31 (start / end times for a simulation); Fig 10 item 1012 and figure's description; Fig 11 (emphasis on 1150 1155 1157 1160) and texts which further expand on its features**);

compare said first counter report to said second counter report to detect variations in rates of occurrences of count events recorded in the first and second counter reports, said comparing including (**col: 18 line: 1-11**):

utilizing the specified number of simulation cycles specified by said first counter report and the specified number of simulation cycles specified by the second counter report to normalize the number of count event occurrences specified by said first counter report with respect to the number of count event occurrences specified by said second counter report; and determining the

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difference in the normalized numbers of occurrences of corresponding count events specified by said first counter report and said second counter report (**col: 18 line: 1-11; when the specified cycles are identical the "normalization" does not have an effect**); and generate a counter difference report that specifies one or more count events for which the determined difference in the normalized numbers of occurrences of corresponding count events exceeds a pre-specified difference threshold (**col: 18 line: 12-18; col: 13 line: 43-57; Fig 9 - emphasis on 950, 295, 290 and their descriptions; Fig 11 (emphasis on 1150 1155 1157 1160) and texts which further expand on its features**).

Vaidyanathan however does not expressly disclose a hardware description language (HDL) batch simulation farm having multiple simulation clients coupled to an instrumentation server, a method for providing centralized access to trends in count event data, wherein the count event data represents sequences of signal values that indicate the occurrence of events triggered during simulation testing of HDL models by the simulation clients. Firstly, it should be noted that in this instance that which is not expressly taught by Vaidyanathan is recited in the preamble. In this instance the preamble is not given patentable weight because the claim limitations do not breath life thereinto. Nonetheless, in spirit of compact prosecution, a 35 USC § 103 is provided.

Raimi discloses an analogous HDL simulation system having the said distributed simulation features (**col: 18 line: 52 to col: 19 line: 8**). It would have been obvious to one of ordinary skill in the art <computer simulation / distributed simulated / distributed computing> at the time of Applicant's invention to combine the references in order to achieve better efficiency by utilizing more processing power thereby completing the simulation faster. In fact, Vaidyanathan hints at this on (**col: 4 line: 21-26**) by stating that "[t]he processor can be a single processor or several individual processors that can work together" (emphasis added).

As per claim 2, the combination of Vaidyanathan and Raimi teaches the method of claim 1, further comprising:

executing a testcase using said hardware HDL simulation model within said one or more

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simulation clients **(Abstract; Fig 9 and its description; col: 3 line: 64-67);**

receiving an aggregate count event packet from said one or more simulation clients, wherein said aggregate count event packet includes count event data recorded during said testcase **(col: 16 line: 50-67; in order for the reports to be produced in claim 1 this limitation must inherently take place).**

within said instrumentation server, storing said count event data within count data storage files **(col: 16 line: 32-42).**

As per claim 3, the combination of Vaidyanathan and Raimi teaches the method of claim 2, wherein said first and second counter reports are generated as output from count event queries processed with respect to said count data storage files **(col: 18 line: 12-18; col: 13 line: 43-57; Fig 9 - emphasis on 950, 295, 290 and their descriptions; Fig 11 (emphasis on 1150 1155 1157 1160) and texts which further expand on its features).**

As per claim 4, the combination of Vaidyanathan and Raimi teaches the method of claim 2 wherein said first and second counter reports are generated directly from said counter data storage files **(col: 18 line: 12-18; col: 13 line: 43-57; Fig 9 - emphasis on 950, 295, 290 and their descriptions; Fig 11 (emphasis on 1150 1155 1157 1160) and texts which further expand on its features).**

As per claim 5, the combination of Vaidyanathan and Raimi teaches the method of claim 1, wherein said first and second counter reports each include a simulator cycle count value that specifies the number of simulation cycles over which simulation testing was processed, said normalizing the number of count event occurrences specified by said first counter report with respect to the number of count event occurrences specified by said second counter report further comprising, computing a count normalization factor that is a ratio of the values of the simulator cycle count field values contained in said first and second counter reports **(col: 16 line: 28-31 (start / end times for a simulation); col: 18 line: 1-11; when the specified cycles are identical the "normalization" does not have an effect).**

As per claims 6-15, note the rejection of claims 1-5 above. The Instant Claims differ only in statutory class from the above-rejected claims and therefore rejected under same prior-art teachings.

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Conclusion


16. All claims are rejected.
17. The Instant Application is not currently in condition for allowance.
18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Silver whose telephone number is (571) 272-8634. The examiner can normally be reached on Monday thru Friday, 10am to 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


KAMINI SHAH
SUPERVISORY PATENT EXAMINER